



WILDLIFE NOTES

Sand Dune Lizard

Photo by Don Sias



This spiny insectivorous lizard was formerly known as the Dunes Sagebrush Lizard (*Sceloporus graciosus arenicolus*)

RANGE

The Sand Dune Lizard (*Sceloporus arenicolus*) has the second smallest range of any lizard in North America, only occurring in a narrow crescent-shaped area of southeastern New Mexico and western Texas. Throughout the range in New Mexico and Texas elevation varies from 2550-4595 feet. The heart of the Sand Dune Lizard's range is the Mescalero Sands, rolling dunes in southeastern New Mexico. They were once numerous in that area but now numbers are reduced due to human alteration of habitat. Today, the fragmented patches of potential and occupied habitat in Chaves, Eddy, Lea, and Roosevelt counties comprise less than 700 square miles.

HABITAT

Sand Dune Lizards are habitat specialists restricted to "sand-shinney" areas. This refers to a unique landscape of bowl-shaped blow-outs interspersed with mounded dunes topped by a very unusual shrub, *Quercus havardii*, the Shinnery Oak. These

dwarf trees are just a few feet tall but clones can be hundreds or thousands of years old. The roots of the Shinnery Oak shrubs provide structure for the Sand Dune Lizards' burrows, and harbor many of the insects in the lizards' diet.

It's not specifically the blowouts, nor the Shinnery Oak, but the proper proportion of the two that makes good Sand Dune Lizard habitat. Further, not any blowout will do; lizards prefer large blowouts that have coarse sand.

DESCRIPTION

Sand Dune Lizards are rough-scaled, grayish tan lizards, 4-7 inches from the blunt nose to the tip of the tail. They have rounded heads, bright yellow eyes, and pale yellow under-lips beneath their wide mouths. Along the sides of the back, faint brownish speckles extend in parallel

lines from the ear openings to the base of the tail. The back feet are large with long, splayed, claw-tipped toes, well suited for running and digging in sand.

In breeding season, females develop an alluring yellowish-orange tinge to their undersides. Males have blue patches on their bellies. Lizards can flash these colors when they do push-up displays for the benefit of conspecifics, but seen from a hawk's eye view, the animals are well camouflaged on the sand.

The scientific name *Sceloporus arenicolus*, describes them further. *Scelo*, from the Greek *skeles*, means leg. *Porus* refers to the lines of pores on the under-surface of their back legs. These are found on many lizards of the iguanid family; they contain a waxy material that leaves a scent trail as the lizards travel. *Arenicolus* means "inhabitant of sandy areas".

BEHAVIOR

Lizards spend their days hunting or basking. They use the behavioral mechanisms of microhabitat choice, posture, and shuttling between sun and shade to keep their body temperature up to an efficient 90 degrees or so (cold-blooded indeed!). When danger lurks, or when the air temperature is too hot, they bury them-

selves in the sand or run under the low, tangled oaks.

DIET/FEEDING

Opportunistic insectivores, Sand Dune Lizards feed on ants, small beetles, crickets, grasshoppers, and spiders. Because they are diurnal (day active), wary, and secretive, they generally feed within or immediately adjacent to patches of vegetation.

REPRODUCTION

Breeding begins in late April. Males seek out females for mating and court by a species-specific pattern of bobbing push-ups. Female Sand Dune Lizards produce one to two clutches per year; smaller, one-year old females will typically lay 3-4 eggs while two-year-olds produce 5- 6 eggs.

The eggs are laid 4-6 inches under the sand and hatch a month later. Not just any sand will do for a nest; sand grains must be relatively coarse, about 0.2mm in diameter. Sand Dune Lizards avoid areas of 'powdered sugar' sand for egg laying, most likely because the small particle size of this sand prevents adequate gas exchange for the developing eggs.

Hatchlings emerge from their eggs from July through late September, depending on whether they're from a first or second clutch. Once they leave the egg, young Sand Dune Lizards are totally on their own. Many hatchlings are eaten by coyotes, snakes, roadrunners, and sometimes by other lizards. In late October to early November, adults and youngsters enter hibernation under the sand.

CONSERVATION

Because the Sand Dune Liz-

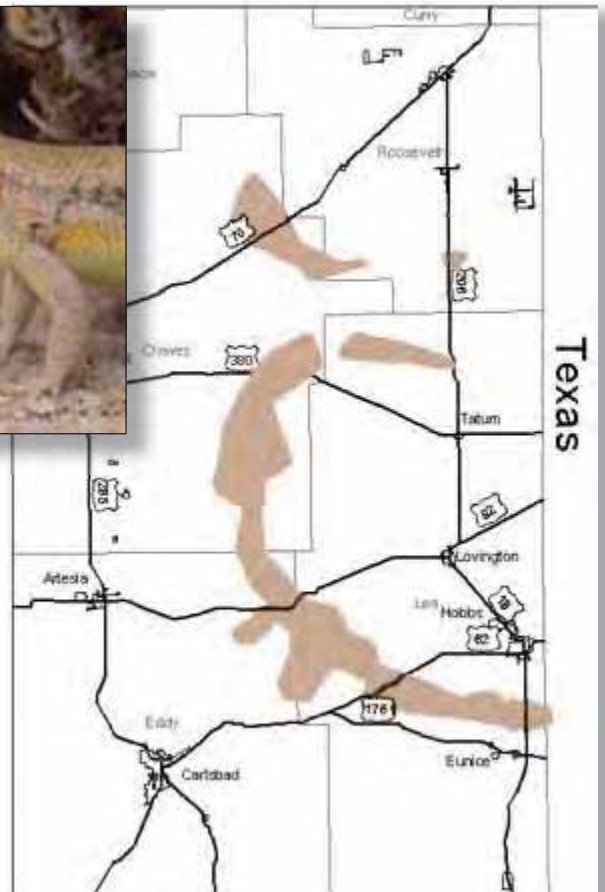
ard is an endemic habitat specialist, its habitat is patchy and its range is tiny, it is very vulnerable to extinction. The New Mexico Department of Game and Fish has listed *S. arenicolus* as an endangered species. It is a high-priority candidate for federal listing by the US-FWS.

The species is threatened by activities that remove the Shinnery Oak, alter the dominant vegetation structure, increase the percentage of grasses, disrupt the sand dunes, or otherwise degrade suitable habitat. It has been established that the use of herbicides on Shinnery Oaks and activities associated with oil/gas extraction have reduced or extirpated some populations. Encroaching development, use of "thumper trucks" for seismic exploration, and off-road vehicles may also pose threats, not only of habitat destruction, but of squashing buried eggs or dormant lizards refuging under the sand.

The sand dune/Shinnery Oak



Female sheltering in heat of day.
Photo: Game and Fish Archives



habitat is home to several other vulnerable wildlife species, including the 'Mescalero Sands' White-tailed Deer and the Lesser Prairie Chicken, a candidate for federal listing. The decline of the Sand Dune Lizard and the Prairie Chicken are signals that the ecology of the unique sand/shinnery ecosystem is being altered by a variety of human activities. Multiple land-managing agencies, conservation organizations and landowners are now cooperating in a plan to balance the needs of the creatures inhabiting the area, the birds, the lizards, the unique oaks and man.

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